

REMARKS

Claims 1-27 are pending in the current application. Claims 1, 9, 16 and 21 have been amended hereby.

The Examiner has objected to the title of the application. The title has been amended hereby and now recites "COMPRESSOR WITH TERMINAL ASSEMBLY HAVING DIELECTRIC MATERIAL". Thus, the withdrawal of the objection to the title is respectfully requested.

The Examiner has objected to the drawings. More specifically, the Examiner has objected to reference numeral "92" in Figure 5 as not pointing to a groove. The lead line used with reference numeral "92" in Figure 5 has been amended hereby. The Examiner has also objected to reference numeral "60" in Figures 4 and 8. The lead line used with reference numeral 60 in Figures 4 and 8 have been amended hereby. Additionally, reference numeral 62 has been added to Figures 4 and 8. Reference numeral 60 designates the electrical connection between electrical connector clip 62 and pins 56 as described in paragraph 34 of the specification which has been amended hereby to clarify the use of reference numeral 60.

The Examiner has objected to the Abstract arguing that a reference to ports 122' and 126 for injection of dielectric subsequent to mating of the connectors should be added. The Abstract has been amended hereby to further recite, "The cluster block assembly may also include one or more apertures to provide for the introduction of the dielectric material which may be introduced after the mating of the connectors."

The Examiner has rejected claims 18 and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner contends that claims 18 and 19 are inconsistent with claim 16. Claim 16, from which claims 18 and 19 depend, has been amended hereby to clarify that "placing the dielectric gel into the cluster block and connecting the cluster block assembly and the terminal assembly together are performable in any order". It is noted that this amendment does not alter the scope of claim 16 but simply clarifies the subject matter thereof.

The Examiner has rejected claims 1-18 and 20-27 under 35 U.S.C. § 103(a) as being unpatentable over Paterek (U.S. Patent No. 5,580,282) in view of Mattis et al. (U.S. Patent No. 5,797,759), Gronvall (U.S. Patent No. 4,998,894), Shimirak et al. (U.S. Patent No. 5,376,019) and Katoh et al. (U.S. Patent No. 5,364,283).

As amended hereby, claim 1, and claims 2-8 which depend therefrom, all call for a hermetically sealed compressor assembly that includes a hermetically sealed housing, an electric motor disposed in the housing, a compression mechanism disposed in the housing and operatively coupled to the motor, and a terminal assembly comprising a cup-shaped terminal body extending through and sealingly attached to the housing wherein the terminal assembly has electrically conductive pins extending through and insulated from the terminal body. The assembly also includes a cluster block assembly disposed within the housing and connected to the terminal assembly wherein the pins are electrically connected to the motor through the cluster block assembly. The cluster block assembly includes a cluster block which is fitted to the terminal body and a cavity is defined between the interior of the cup-shaped terminal body and an interfacing surface of the cluster block. A dielectric material substantially fills at least one of the cavity and substantially all free volume within the cluster block assembly.

As amended hereby, claim 9, and claims 10-15 which depend therefrom, all call for a hermetically sealed compressor assembly that includes a hermetically sealed housing, an electric motor disposed in the housing, a compression mechanism disposed in the housing and operatively coupled to the motor, and a terminal assembly comprising a cup-shaped terminal body extending through and sealingly attached to the housing wherein the terminal assembly has electrically conductive pins extending through and insulated from the terminal body. The assembly also includes a cluster block assembly disposed within the housing and connected to the terminal assembly wherein the pins are electrically connected to the motor through the cluster block assembly with the cluster block assembly also including a cluster block which is fitted to the terminal body. The compressor assembly also includes a liquid dielectric material which has been placed within at least one of the cluster block and a cavity defined by the cluster block assembly and the terminal assembly whereby the electrical connection between the cluster block assembly and the terminal assembly is insulated.

As amended hereby, claim 21, and claims 22-27 which depend therefrom, all call for a hermetically sealed compressor assembly that includes a hermetically sealed housing, an electric motor disposed in the housing, a compression mechanism disposed in the housing and operatively coupled to the motor, and a terminal assembly comprising a cup-shaped terminal body extending through and sealingly attached to the housing wherein the terminal

assembly has a plurality of conductor pins extending through and insulated from the terminal body. A cluster block assembly is disposed within said housing and in communication with the terminal assembly wherein the cluster block assembly includes a cluster block which is fitted to the terminal body with the cluster block having free volume therein. An interface between the interior of the cup-shaped terminal assembly and the cluster block assembly defines a cavity between the interior of the cup-shaped terminal body and the cluster block. The plurality of conductor pins are electrically connected to the motor through the cluster block assembly. The compressor assembly also includes a dielectric material substantially filling at least one of the cavity and the cluster block free volume.

The Examiner cites Paterek '282 for disclosing a housing for a compressor and motor, a terminal body having a cup-shaped body 3 mounted in the housing and a cluster block 8 with a shield 14 wherein a cavity is defined by the shield 14 and cup 3. The Examiner acknowledges that Paterek '282 does not disclose a dielectric material filling the cavity. The Examiner argues that Mattis et al. '759, Gronvall '894, Shimirak et al. '019 and Katoh et al. '283, rectify the deficiencies of Paterek '282. None of these additional references, however, either alone or in combination with Paterek '282 suggest the use of a dielectric material with a cluster block assembly and terminal assembly within the hermetically sealed housing of a compressor assembly as called for by claims 1, 9 or 21 of the present application.

More specifically, while these additional references disclose various dielectric materials, the uses disclosed for these dielectric materials do not suggest their use within the hermetically sealed housing of a compressor assembly. Nor does Paterek '282 suggest such a use. Paterek '282 discloses the use of walls and O-rings to seal and isolate the pins of a terminal assembly using a minimum number of parts. See, e.g., col. 1, lines 41-45. Moreover, Paterek '282 also specifically envisions alternative embodiments, see, col. 2, lines 50-54, but such alternative embodiments involve relocating the position of a sealing means, e.g., an O-ring, not employing an entirely different approach involving the use of a dielectric filler material as called for in the claims of the present application.

With regard to Mattis et al. '759, this patent concerns a telecommunication terminal block with a standardized mateable/demateable interface module. Mattis et al. '759 does disclose the use of a gel with the module, however, the gel is used to provide a weatherproof system that could be located underground, on a telephone pole or other outside enclosure as

illustrated by terminal blocks 910a, 910b and 910c in Figure 15. As described in the specification, the disclosed module also provides for repeated disconnection and reconnection: "[t]he wire connection module, while permanently connecting to the drop wire, can be repeatedly connected and disconnected to the terminal block without corrosion problems, loss of telephone signal, or loss of weatherproofness during and between several reconnections." Col. 3, lines 10-14.

This use of gel with a telecommunication terminal block in an outside environment to provide a weatherproof system that can be repeatedly disconnected and reconnected is a very different situation from that of a cluster block being attached to a terminal assembly in the hermetically sealed environment within a compressor housing and there is no indication in Mattis et al. '759 that its interface module would be beneficially adaptable for such an application.

With regard to Gronvall '894, this patent relates to radio frequency connector seals used as coaxial cable TV drop seals. Gronvall '894 recognizes that "[r]adio frequency cable connectors and tap terminations exposed to outside elements degrade and corrode", col. 1, lines 14-15, and has as an object "to provide environmental protection of a terminator of a radio frequency tap such as a cable TV tap and the connector on the end of a coaxial cable." Col. 1, lines 33-36. Gronvall '894 also discloses the use of a gel to prevent corrosion of terminator 600 and connector 200. See, col. 2, lines 20-21. "The gel is initially poured into compartment 12a, 12b, and 12c in a liquid state and permitted to cure. Any sealing material capable of removably and reusably adhering to the terminator 600 and connector 200 is suitable for use in the invention." Col. 2, lines 31-36 (emphasis added). Thus, Gronvall '894 also concerns an connector which is adapted for exposure to outside elements and which includes a reusable sealing material which simply does not suggest its use with a cluster block being attached to a terminal assembly in the hermetically sealed environment within a compressor housing.

With regard to Shimirak et al. '019, this patent concerns environmentally protected modular electrical connections for telephone communication equipment, e.g., protecting telephone jacks from damage caused by moisture, environmental pollutants, and corrosion as often occurs in coastal regions, islands and the like. See col. 1, lines 17-25. Such connectors may be located at an external location such as a junction box leading to a house at subscriber

facilities or other remote terminals at customer facilities. Col. 1, lines 48-56. Shimirak et al. '019 discloses the use of a gel with to protect the electrical contacts of a socket and plug assembly from moisture and other corrosives. Col. 3, lines 58-65. The disclosed apparatus "provides for environmental protection after repeated electrical connections and disconnections of telephone equipment." Col. 2, lines 22-25. Thus, Shimirak et al. '019 is similarly concerned with a modular telephone jack that can be used in an external junction box and repeatedly connected and disconnected and does not suggest its use with a cluster block being attached to a terminal assembly in the hermetically sealed environment within a compressor housing.

With regard to Katoh et al. '283, this patent concerns an electrical connecting device that can be used in a bathroom to protect the connection from high humidity. The disclosed device utilizes a grease to protect against high humidity. Because the grease does not solidify, the housings being connected remain detachable. See col. 3, lines 66-68. Katoh et al. '283 also discloses the use of a silicone cover 18 together with the grease 19. Thus, Katoh et al. '283 concerns an electrical connection that is being used in an environment having high humidity and covers the terminals being connected with a grease to protect them from the high humidity while still allowing the terminals to be disconnected and reconnected and also fails to suggest its use with a cluster block being attached to a terminal assembly in the hermetically sealed environment within a compressor housing. Moreover, the grease 19 is described as being "of a character that that its oil thin film is apt to disappear when a pressure is applied thereto", col. 3, lines 54-56, and, thus, does not suggest the use of a dielectric material substantially filling at least one of a cavity defined between the interior of a cup shaped terminal body and an interfacing surface of a cluster block and substantially all free volume within the cluster block assembly as called for in claim 1.

Thus, the patents, i.e., Mattis et al. '759, Gronvall '894, Shimirak et al. '019 and Katoh et al. '283, that the Examiner seeks to combine with Paterek '282 are concerned with an electrical connection that may be used in an outside environment or in an interior location, i.e., a bathroom subject to high humidity in the case of Katoh et al. '283, that does not have a controlled environment and wherein the filler is reusable and/or permits the disconnection and reconnection of the electrical connection. In contrast, the present application is concerned with terminal assembly and a cluster block assembly wherein the cluster block



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assembly is mounted on the terminal assembly and is located within the hermetically sealed housing of a compressor assembly. Thus, the present application is concerned with an electrical connection located within a sealed compressor housing that is not subject to repeated disconnections and reconnections of the electrical contacts and which is not an external environment subject to the outside elements or a bathroom subject to changing levels of humidity.

As explained by the Federal Circuit, "[t]he genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion or reason' to combine cited references." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001) quoting *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579 (Fed. Cir. 1997). No adequate basis for combining the teaching of Mattis et al. '759, Gronvall '894, Shimirak et al. '019 and Katoh et al. '283 with an electrical connection located within a hermetically sealed compressor housing has been set forth and it is respectfully submitted that claims 1-15 and 21-27 are patentable over the cited references.

With regard to claims 16-18 and 20, these claims are method claims. The Examiner did not specifically address method claims in his rejection of claims 1-18 and 20-27 under 35 U.S.C. § 103(a) as being unpatentable over Paterek (U.S. Patent No. 5,580,282) in view of Mattis et al. (U.S. Patent No. 5,797,759), Gronvall (U.S. Patent No. 4,998,894), Shimirak et al. (U.S. Patent No. 5,376,019) and Katoh et al. (U.S. Patent No. 5,364,283) and these claims are patentable over these references for the same reasons discussed below with regard to Leitmann, Paterek and Gronvall.

The Examiner has rejected claims 16-19 under 35 U.S.C. § 103(a) as being unpatentable over Leitmann (U.S. Patent No. 4,326,096) in view of Paterek (U.S. Patent No. 5,580,282) and Gronvall (U.S. Patent No. 4,998,894).

As amended, claim 16, and claims 17-20 which depend therefrom, all call for a method for insulating an electrical connection within a hermetically sealed compressor assembly that includes placing a dielectric gel into a terminal assembly having at least one conductor pin, placing the dielectric gel into a cluster block assembly having at least one connector, connecting the cluster block assembly and the terminal assembly together whereby the pin and the connector are electrically coupled, wherein placing the dielectric gel into the

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cluster block and connecting the cluster block assembly and the terminal assembly together are performable in any order, allowing the dielectric gel to cure into a substantially solid state, and positioning the cluster block assembly within a hermetically sealed compressor housing.

Leitmann '096 concerns an electrical connector that for a high voltage circuit such as those found in projection type televisions. The disclosed connector includes a filler F that "prevents electrical shock hazards and corona from occurring when the connector is subjected to a voltage in the range of 60,000-80,000 volts." Col. 4, lines 7-9. The disclosed connector includes a port P in outer section 15a to permit filler F to be injected into the cover piece. Col. 2, lines 55-58. Paterek '282 and Gronvall '894 are discussed above, and there is no suggestion in either Leitmann '096, Paterek '282 or Gronvall '894 to combine the structure of Leitmann '096 with the compressor assembly of Paterek '282. Thus, claims 16-20 are patentable over the cited references and the allowance of claims 16-20 is respectfully requested.

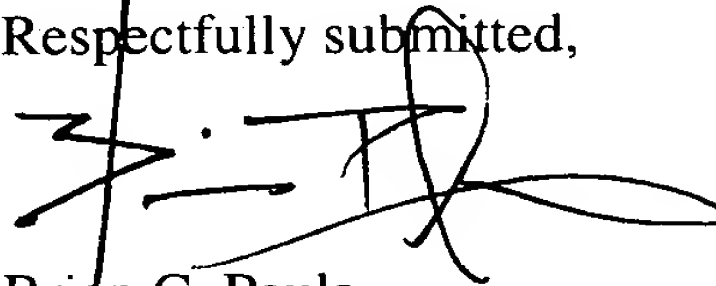
In the event Applicant has overlooked the need for any extension of time or payment of fee, Applicant hereby petitions therefor and authorizes that any charges be made to Deposit Account No. 02-0385, Baker & Daniels. Should the Examiner have any further questions regarding any of the foregoing, the Examiner is respectfully invited to telephone the undersigned at (260) 424-8000.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this application.

Respectfully submitted,



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I HEREBY CERTIFY THAT THIS correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: January 21, 2004.

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Name of Registered Representative



Signature

January 21, 2004

Date